

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES G. BEARSS, EUGENE A. ROYLANCE,
WAYNE E. BRADBURN AND ARLIN R. JONES

Appeal No. 2002-1457
Application No. 09/047,315¹

ON BRIEF

Before HAIRSTON, JERRY SMITH and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-22, which are all of the claims pending in this application.

We reverse.

BACKGROUND

Appellants' invention is directed to synthesizing lower resolution digital source data to a higher resolution format for

¹ Application for patent filed March 24, 1998, which is a continuation-in-part of Application No. 08/855,253, filed May, 13, 1997, which is now abandoned.

Appeal No. 2002-1457
Application No. 09/047,315

subsequent rendering on an output device having the same lower resolution as the source data. The synthesized higher resolution data is rendered such that dots represented by the synthesized data are formed interstitially relative to the scan lines as determined by the given lower resolution capability of the output device (specification, pages 6 & 7).

Representative independent claim 1 is reproduced as follows:

1. A method of rendering raster image data on an imaging device having a given raster capability, the method comprising:

(a) receiving raster image data defined at a resolution less than or equal to the given raster capability of the imaging device;

(b) converting the raster image data to a resolution format greater than the given raster capability of the imaging device thereby forming increased resolution format image data; and,

(c) rendering the increased resolution format image data with the imaging device in a manner such that at least one dot represented by the increased resolution format image data is formed interstitially relative to scan lines defined by the given raster capability of the imaging device.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Eschbach	5,724,455	Mar. 3, 1998 (Dec. 17, 1993)
Frazier et al. (Frazier)	5,134,495	Jul. 28, 1992

Appeal No. 2002-1457
Application No. 09/047,315

Claims 21 and 22 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eschbach in view of Frazier.

We make reference to the answer (Paper No. 14, mailed September 11, 2001) for the Examiner's reasoning, and to the brief (Paper No. 13, filed June 25, 2001) and the reply brief (Paper No. 15, filed January 22, 2002) for Appellants' arguments thereagainst.

OPINION

In rejecting claims 21 and 22 under the second paragraph of 35 U.S.C. § 112, the Examiner points to the limitations of "given scan line definition" and "such that at least some of the second data is imaged offset from the raster scan line definition" as vague and unclear (answer, page 3). Appellants argue that all imaging devices have a given or default raster scan line definition depending on the raster scan lines arrangement and dictated by the resolution of the bitmap and the pitch of the laser scan (reply brief, page 2). Appellants further assert that the normal and reasonable meaning of "offset" is "placed or moved out of line or out of the center" which is consistent with the teachings of the specification that some data is formed

interstitially relative to two given scan lines (reply brief, page 3).

Analysis of a rejection under 35 U.S.C. § 112, second paragraph, should begin with the determination of whether claims set out and circumscribe the particular area with a reasonable degree of precision and particularity; it is here where definiteness of the language must be analyzed, not in a vacuum, but always in light of teachings of the disclosure as it would be interpreted by one possessing ordinary skill in the art. In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977), citing In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (1971). "The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope." In re Warmerdam, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994) (citing Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 927 F.2d 1200, 1217, 18 USPQ2d 1016, 1030 (Fed. Cir.), cert. denied sub nom., Genetics Inst., Inc. v. Amgen, Inc., 112 S.Ct. 169 (1991)).

We note that the Examiner has neither outlined any specific reasoning in support of the alleged indefiniteness of the claims nor provided any response to Appellants' reasonable rebuttal. In fact, we find ourselves in agreement with Appellants' arguments

and conclude that the limitations of "given scan line definition" and "such that at least some of the second data is imaged offset from the raster scan line definition," as recited in claims 21 and 22, are clear and would reasonably apprise those skilled in the art of the scope of these limitations. Accordingly, we will not sustain the rejection of claims 21 and 22 under the second paragraph of 35 U.S.C. § 112.

Turning now to the rejection of claims 1-22 under 35 U.S.C. § 103, we note that the Examiner relies on Eschbach for teaching a method of rendering raster images that includes receiving raster image data and rendering the increased resolution with the image device (answer, page 3). The Examiner further relies on Frazier for modifying a display device having a nominal resolution to produce output dots at positions that are not at the normal resolution positions of the scan lines of the display device (answer, page 4). Finally, the Examiner concludes that combining the image production of Eschbach and Frazier for providing an increased resolution format image formed interstitially relative to the scan lines would have been obvious (id.).

Appellants argue that Eschbach only teaches generating a bitmap that is at most equal in resolution to an output printer

resolution and does not include generating a bitmap that is greater in resolution relative to that of the printer (brief, page 4). Additionally, Appellants assert that Frazier uses the same unchanged input data to generate an output resolution which is never changed and remains the same as the resolution of the input data but is different, either higher or lower, relative to the default resolution of the output device (brief, pages 4 & 5). Appellants argue that the claimed "converting the raster image data to a resolution format greater than the given raster capability of the imaging device is distinguished from the output resolution obtained from the combination of the prior art references where the output resolution is the same as that of the input but is different from the default resolution of the device (brief, page 6 and reply brief, pages 4 & 5).

In response to Appellants' arguments, the Examiner asserts that Frazier (col. 3, lines 59-68) teaches the techniques for enhancing the resolution of an input that has greater resolution relative to the printer (answer, page 9). With respect to converting the input data to a higher resolution, the Examiner points to elements 20 and 24 in Figure 14 of Frazier and argues that such resolution transformation circuitry converts the source data to a higher or lower resolution (answer, page 10).

Appeal No. 2002-1457
Application No. 09/047,315

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). The conclusion that the claimed subject matter is obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Furthermore, the Examiner must produce a factual basis supported by teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration, consistent with the holding in Graham v. John Deere Co., 383 U.S. 1 (1966). Such evidence is required in order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

A review of Eschbach confirms that the reference relates to a method for resolution enhancement by converting an image from an original resolution to an output resolution (col. 2, lines 1-8). Eschbach further teaches that a document is converted to a

first bitmap indicative of the resolution expected in the application (col. 6, lines 9-16) and a second bitmap having a resolution indicative of the output device resolution (col. 6, lines 20-28). Therefore, as acknowledged by the Examiner, Eschbach generates the output bitmap having a resolution that is either the same or lower than the resolution of the output image device.

Frazier, on the other hand, relates to the method of resolution transformation method in a laser printer by activating the laser energy sources at a higher rate to adjust the printer resolution to the input data resolution (abstract; col. 4, lines 63-68). We also note that although Frazier increases the resolution of the printer, the increased resolution follows the resolution of the input data image (col. 9, lines 38-50), for example, by adjusting the printer resolution from its 300 DPI to 600 DPI in order to accommodate the input data at 600 DPI resolution. Additionally, what the Examiner refers to as "the resolution transformation circuitry" (answer, page 10), in fact, take the resolution of the input image and transforms the rate of the laser activating pulse per pixel time intervals in order to adjust the printer resolution to that of the stored input image (Fig. 14; col. 11, line 67 through col. 12, lines 3).

We agree with Appellants' assertion (brief, page 5 and reply brief, page 4) that the input image data in Frazier is never converted and remains unchanged while the display capability of the printer is adjusted to that of the input image data. As discussed above, none of the references recognize the converting of the input image data to a resolution greater than that of the image device. Thus, assuming, arguendo, that it would have been obvious to combine Eschbach with Frazier, as held by the Examiner, the combination would still fall short of teaching converting the image data to a resolution higher than the image device resolution and forming the increased resolution image data interstitially relative to scan lines defined by the given raster capability of the imaging device.

In view of our analysis above, we find that the Examiner has failed to set forth a prima facie case of obviousness because the necessary teaching and suggestion related to the conversion of the input data resolution and rendering the increased resolution image data with an imaging device, as recited in claims 1, 13, 14, 21 and 22 neither are shown nor can be derived from the combination of the references. Accordingly, we do not sustain the 35 U.S.C. § 103 rejection of independent claims 1, 13, 14, 21 and 22, nor of claims 2-12 and 15-20 dependent thereon.

Appeal No. 2002-1457
Application No. 09/047,315

CONCLUSION

In view of the foregoing, the decision of the Examiner to reject claims 21 and 22 under 35 U.S.C. § 112 and claims 1-22 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
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Appeal No. 2002-1457
Application No. 09/047,315

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